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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/523,600

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Adolf-Gustav Zajber

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11/24/2009

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EXAMINER

KERNS, KEVIN P

ART UNIT

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1793

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/523,600	<b>Applicant(s)</b> ZAJBER ET AL.	
	<b>Examiner</b> Kevin P. Kerns	<b>Art Unit</b> 1793	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 October 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-10 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2005 and 12 January 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 3 is objected to because of the following informalities: in the 2<sup>nd</sup> line from the end of the claim, replace “drive” with “driven” before “rollers” for consistency with claim 1 and (cancelled) claim 4. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanazaki et al. (US 6,102,101) in view of Weyer et al. (US 6,386,268).

Hanazaki et al. disclose a continuous casting method and apparatus for guiding a cast strand by pairs of rollers at the reduction zone while the billet (cast slab 30) is still in a semi-solid state, as best shown by the combination of regions  $S_G$  (liquid metal core) and  $S_S$  (solidified metal shell) in Figure 3, such that reaction force/reduction is applied by a reaction force/reduction controller (abstract; column 1, lines 5-9; column 2, lines 20-67; column 3, lines 1-65; column 7, lines 58-67; column 8, lines 1-46; and Figure 3). Hanazaki et al. fail to teach that the rollers have position and hydraulic controllers to adjust the rollers (of independent claim 1). Hanazaki et al. furthermore fail to teach these limitations, as set forth in independent claim 3, dependent claims 6-9, and (cancelled) claim 4 (which was incorporated into independent claims 1 and 3).

However, Weyer et al. disclose a method for adjusting roller segments comprising the steps of adjusting rollers (3) relative to each other by both position control and pressure control. The rollers (3) are adjusted from position control to pressure control when the hydraulic pressure in the piston-cylinder unit reaches a predetermined value (abstract; and Figures 1 and 2). Regarding claim 2 and (cancelled) claim 4 (the limitations of claim 4 having been incorporated into independent claims 1 and 3), the driven rollers (the last roller of the set of rollers 3) are arranged on the segment exit side and include a switching operation. Regarding claim 3, a containment roll stand is arranged after the bending-straightening unit, having hydraulics piston-cylinder assembly with position and pressure controlled devices (Figures 1 and 2). Regarding claim 6, the control systems are capable of calculating the adjustment of the hydraulics and automatically control the hydraulics. Regarding claims

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7 and 8, the control systems are capable of controlling the hydraulics by calculating roll spring compensation, minimum/maximum force regulator, positioning, torque, and speed. Regarding claim 9, Weyer et al. teach both pressure and position sensors (abstract; column 2, lines 17-67; column 3, lines 1-30; and Figures 1 and 2). Weyer et al. disclose the above differences for the purpose of preventing bellying of the billet and avoiding break-outs (column 1, lines 65-67; and column 2, lines 1-4).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the continuous casting method and apparatus for guiding a cast strand by pairs of rollers at the reduction zone while the billet (cast slab) is still in semi-solid state, as disclosed by Hanazaki et al., by using the position and hydraulic controllers, as taught by Weyer et al., in order to cast a desired strand in a continuous casting operation that prevents bellying of the billet and avoids break-outs (Weyer et al.; column 1, lines 65-67; and column 2, lines 1-4).

Regarding claims 5 and 10, both Hanazaki et al and Weyer et al. disclose and/or suggest the above invention as claimed, but fail to teach that the drive motor for a driven motor is arranged, together with a transfer case, on one side of the segment frame with a vertical drive shaft orientation. However, it would have been obvious to one of ordinary skill in the art to arrange the drive motor together with the transfer case on one side of the frame, since this would depend on the design expediency.

Regarding claim 10, Weyer et al. fail to teach that the drive motor for the driven motor communicates with the basic automation system. However, it would have been obvious

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to connect the drive motor to the automation system, since the entire device is driven automatically.

### ***Response to Arguments***

5. The examiner acknowledges the applicants' amendment received by the USPTO on October 30, 2009. The amendment overcomes the prior objection to claim 8. However, a new objection to claim 3 is raised by the amendment (see above section 1). The applicants have cancelled claim 4. Claims 1-3 and 5-10 are currently under consideration in the application.

6. Applicants' arguments filed October 30, 2009 have been fully considered but they are not persuasive.

With regard to the applicants' remarks/arguments on pages 9-11 of the amendment, it is noted that the newly underlined portions of the above 35 USC 103(a) rejections section reflect and clarify that the subject matter of cancelled claim 4 was incorporated into independent claims 1 and 3. Regarding the specific arguments, the applicants' major argument (as presented in the 1<sup>st</sup> and 2<sup>nd</sup> full paragraphs on page 9 of the remarks section) is that both the Hanazaki et al. and the Weyer et al. references allegedly fail to teach a "driven roller". However, this limitation was previously rejected in the non final rejection mailed April 27, 2009, as the driven roller of the last set of rollers (3) shown in Figure 1 of Weyer et al. (as *italicized* in the above 35 USC 103(a) rejections section) is the feature that reads on the applicants' claimed driven rollers (23),

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since both of these rollers provide the same function within respective segments of rollers (adjacent the exit side). It is also noted that the applicants neither claimed nor specified distinct details of the abovementioned claimed driven rollers. In view of the broadest interpretation of "driven rollers", the last set of rollers (3) in the roller segment of Figure 1 of Weyer et al. meets the claimed language provided in the last three lines of independent claims 1 and 3. As a result, claims 1-3 and 5-10 remain rejected.

### ***Conclusion***

7. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (571)272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on (571) 272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns  
Primary Examiner  
Art Unit 1793

/Kevin P. Kerns/  
Primary Examiner, Art Unit 1793  
November 16, 2009